

ABSTRACT OF THE DISCLOSURE

A method for compiling a program to reduce the possibility of cache thrashing is provided. The method comprises identifying a loop in a program, identifying each vector memory reference in the loop, and determining dependencies between the vector memory references in the loop. Determining the dependencies includes determining unidirectional and circular dependencies. Thereafter, the vector memory references are distributed into a plurality of detail loops, wherein the vector memory references that have circular dependencies therebetween are included in a common detail loop, and the detail loops are ordered according to the unidirectional dependencies between the memory references .